

**A NEW GENUS AND FOUR NEW SPECIES OF COLPURINI
(HEMIPTERA: HETEROPTERA: COREIDAE)
FROM NEW GUINEA**

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Abstract.—A new genus and four new species from New Guinea are described in the tribe Colpurini (Coreidae). The relationships of the genus are stated to be with *Hygia*. Dorsal view illustrations, and drawings of the head, pronotum and male and female genitalia are provided.

Recently I have been engaged in a revisionary study of the tribe Colpurini (Coreidae). This tribe has undergone extensive speciation in the Indo-Pacific Islands, contains many undescribed species and will eventually prove to be of considerable importance in zoogeographic studies. This paper is presented at this time to describe a new genus and four new species that occur in New Guinea, so that they may be available for use in a faunal study of the Coreidae of this island. Little is known of the biology of these species and probably the majority of species are adapted to forest edge and forest habitats, and live on or beneath low plants or among decaying plant material; a few of them are pests of field crops (Dolling, 1987; Brailovsky, 1990; Brailovsky et al., 1992).

The following abbreviations are used in the text: Bernice P. Bishop Museum, Honolulu, Hawaii (BPBM); Instituto de Biología de la Universidad Nacional Autónoma de México (IBUNAM); Museum of Comparative Zoology, Harvard University (MCZH); Rijksmuseum van Natuurlijke Histoire, Leiden, Netherlands (RNHL).

All measurements are in millimeters.

Lothygia, new genus

Description. Head. Longer than wide, pentagonal and dorsally slightly convex; tylus apically truncate or with a small spiny projection, extending anterior to juga and seen laterally extending above them; juga unarmed and thick; antenniferous tubercles unarmed, with truncate apex or with small lateral lobe-like projection; sides of head in front of eyes unarmed, straight and longer than total length of eye; antennal segment I robust, thickest, curved outwards and shorter than head; segments II and III cylindrical and relatively robust; segment IV fusiform; antennal segment II the longest, segment IV longer than I and I and III almost equal; ocelli conspicuously tuberculate; precellar pit deep, diagonally excavated; eyes spherical; postocular tubercle protuberant; bucculae rounded, short, not extending beyond antenniferous tubercles, with a sharp spiny middle projection; rostrum reaching anterior third or extending beyond posterior edge of abdominal sternite VII. *Thorax. Pronotum.* Wider than long, trapeziform, moderately declivent; anterior collar wide; frontal angles produced forward as conical teeth; anterior half of anterolateral edge straight and posterior half convex; humeral angles rounded, not exposed; posterolateral and pos-

terior edge straight; callar region with two short elevations, separated along midline by a longitudinal furrow; posterior margin with a transverse ridge. Anterior lobe of metathoracic scent glands reniform, posterior lobe sharp and shorter. *Legs*. Fore and middle femora with two rows of small and obtuse spines, running along ventral surface; posterior femora with small, anteapical obtuse spines difficult to see; tibiae cylindrical, sulcate. *Scutellum*. Triangular, flat, wider than long; apex short, acute. *Hemelytra*. Macropterous, reaching the posterior margin of the last abdominal segment; apical margin obliquely straight, with a short apical angle reaching almost the middle third of the hemelytral membrane; costal margin emarginated, slightly convex; hemelytral membrane with few bifurcate veins. *Abdomen*. Connexiva higher than body; posterior angle of connexiva complete, not extending into a short spine; abdominal sternites with medial furrow projecting to anterior edge of sternite V. *Integument*. Dorsal surface dull and ventrally bright, polished. Ventral head, pronotum, scutellum, clavus, corium, thorax, abdomen and exposed parts of genital segments of both sexes punctate. Body covered by short to long decumbent scattered bristle-like hairs; antennae and legs with few long erect hairs. *Male genitalia*. *Genital capsule*. Posteroventral edge laterally produced into short blunt lobes and between them with a large (Fig. 5) or shorter (Fig. 4) median almost straight plate, or well posteroventral edge heart-shape (Fig. 7) or sinuate and laterally poorly exposed (Fig. 6). *Parameres*. Figures 8–15.

Female genitalia. Abdominal sternite VII with plica and fissure; plica noticeably elevated, apically rounded and leaving only a short fissure uncovered; gonocoxae I enlarged dorso-ventrally, in caudal view opened (Fig. 17) or closed (Fig. 19), in lateral view slightly triangular, with superior half broad and inferior half slender or elongate and apically lobated; outer margin with superior convexity; paratergite VIII short, triangular, with visible spiracle; paratergite IX squarish (Figs. 16–19). Spermatheca. Figure 20.

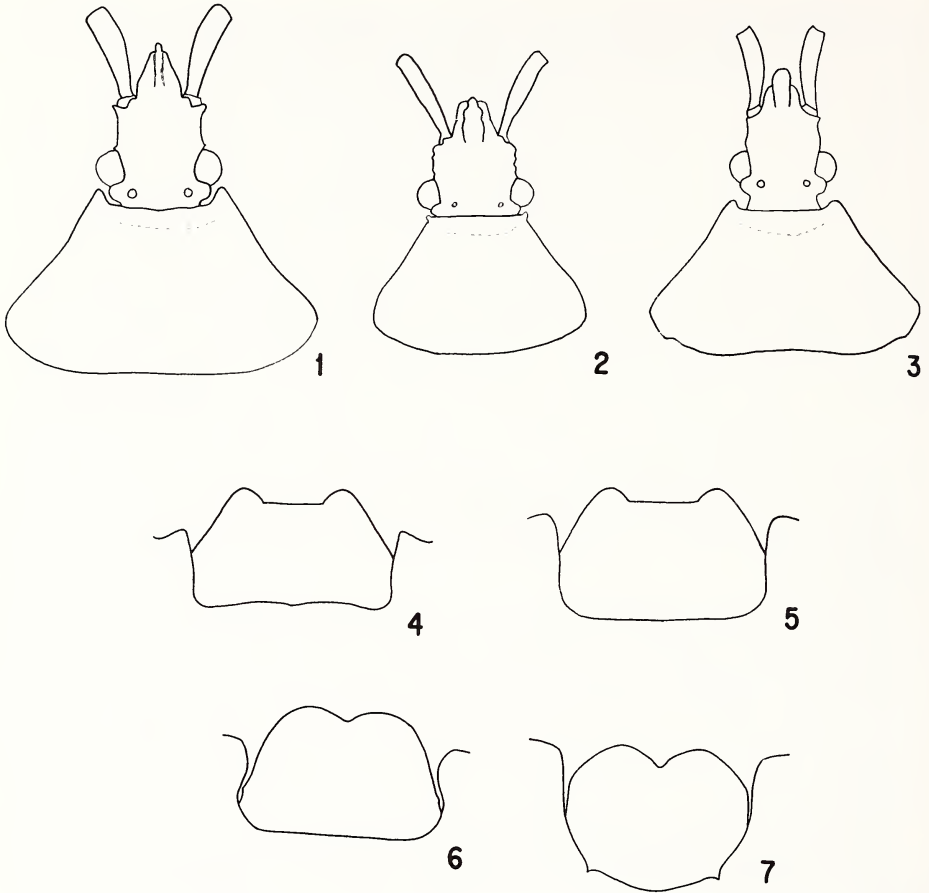
Type species. *Lothygia papuana*, new species.

Etymology. Named for Dr. Antonio Lot Helgueras, in recognition of his distinguished services toward the advancement of knowledge of the Mexican aquatic vegetation.

Distribution. New Guinea.

Discussion. This genus is closely related to *Hygia* Uhler, sharing with it the following characters: juga unarmed, head not elongated, sides of head in front of eyes unarmed, ocelli present, bucculae with sharp middle projection, humeral angles rounded, not exposed and plica and fissure of abdominal sternite VII of the female present, differing primarily by the following combination of characters: body remarkably robust, antennal segments II and III robust, head longer than wide, rostrum reaching anterior third or extending beyond posterior edge of abdominal sternite VII, frontal angles of pronotum slightly produced forward as conical teeth, fore and middle femora armed with two rows of small and obtuse spines, running along ventral surface, scutellum wider than long and pleural margin of abdominal sternites III to VII always bright orange yellow.

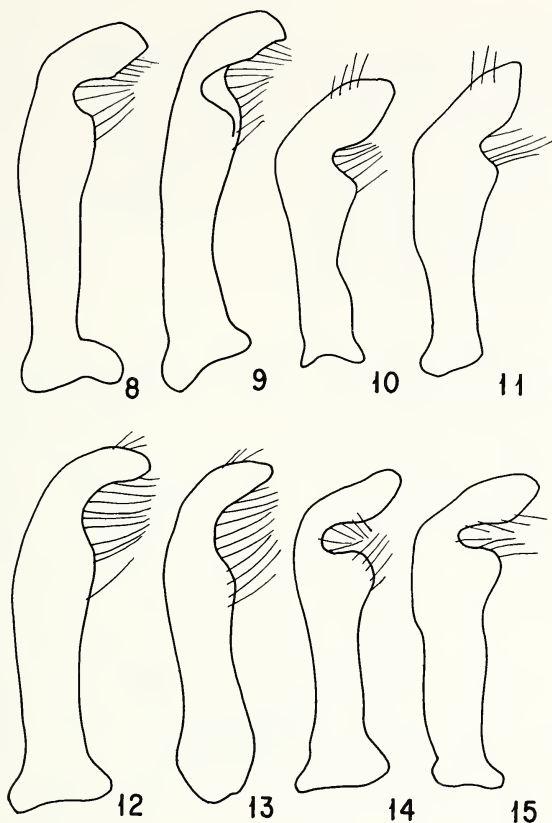
In *Hygia* (*Pterocolpura*) Blöte antennal segments II and III slender, head wider than long, rostrum reaching posterior margin of abdominal sternite V, frontal angles of pronotum conspicuously expanded like broad wings, femora unarmed, scutellum longer than wide and pleural margin of abdominal sternite III to VII never bright orange yellow.



Figs. 1-7. 1-3. Head and pronotum in dorsal view of *Lothygia* spp. 1. *L. papuana*, new species. 2. *L. sandaracine*, new species. 3. *L. enarotadi*, new species. 4-7. Caudal view of the male genital capsule of *Lothygia* spp. 4. *L. papuana*, new species. 5. *L. enarotadi*, new species. 6. *L. sandaracine*, new species. 7. *L. cordigera*, new species.

In *Hygia* (*Sphinctocolpura*) Breddin the head wider than long, scutellum wider than long or almost equal, rostrum shorter, reaching anterior third of abdominal sternite V, frontal angles of pronotum conical, fore and middle femora with only two short antepical spines, plica of abdominal sternite VII of the female transversely elongated and never surpassing the middle of that segment and the pleural margin of abdominal sternite III to VIII never bright orange yellow.

The only species previously recorded from New Guinea and belonging to the genus *Hygia* was *H. (Eucolpura) lugubris* (Walker) (1871). The subgenus *H. (Eucolpura)* Breddin is clearly distinguished for the genae armed with rectangular and short teeth, antennal segment I longer than 2.70 mm, rostrum reaching middle third of abdominal sternite IV and plica of abdominal sternite VII of female transversely elongated and



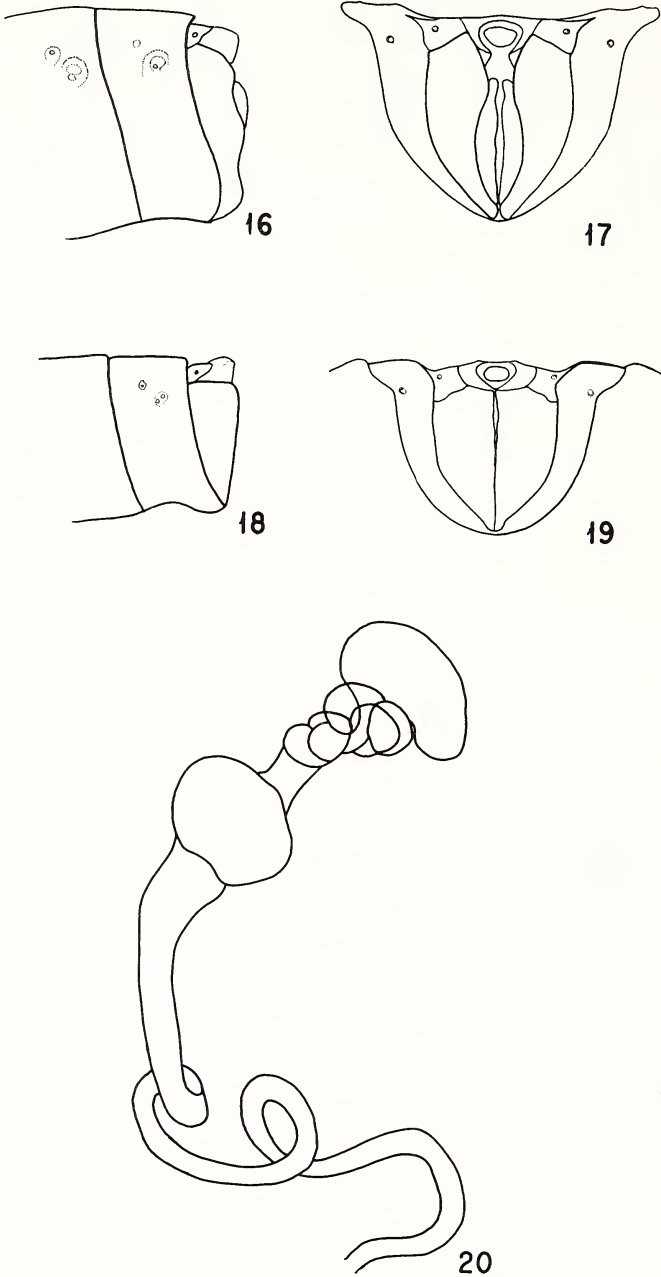
Figs. 8–15. Parameres of *Lothygia* spp. 8, 9. *L. papuana*, new species. 10, 11. *L. cordigera*, new species. 12, 13. *L. enarotadi*, new species. 14, 15. *L. sandaracine*, new species.

never surpassing the middle of that segment. In *Lothygia*, new genus, the genae are unarmed, the antennal segment I is shorter than 2.00 mm, rostrum longest and plica noticeably elevated leaving only a short fissure uncovered.

***Lothygia papuana*, new species**

Figs. 1, 4, 8, 9, 16, 17, 20, 21, 24

Description. Dorsal coloration. Head black; space between eye-ocelli yellow; antennal segments I to III dark red and IV dark orange with basal third dark red; pronotum dark red orange with anterior third dark black red; scutellum black with apex ochre; clavus and corium orange; hemelytral membrane dark brown with black spots and following areas yellow: basal angle and apical margin; connexival segments bright orange yellow with posterior third black (on some specimens entirely yellow); abdominal segments I–VII dark brown to black. *Ventral coloration.* Bright dark red with following areas bright orange yellow: anterior lobe of metathoracic scent gland and pleural margin of abdominal sternite III to VII; acetabulae and prothorax bright



Figs. 16–20. 16, 17. Female genital plates of *Lothygia papuana*, new species. 16. Lateral view. 17. Caudal view. 18, 19. Female genital capsule of *Lothygia cordigera*, new species. 18. Lateral view. 19. Caudal view. 20. Spermatheca of *Lothygia papuana*, new species.

dark orange; rostral segments I–II dark red and III–IV paler; legs bright dark red with a complete or incomplete ochre ring located on the basal third of tibiae. *Structures*. Antenniferous tubercles unarmed, with truncated apex; tylus apically with a small spiny projection; rostrum reaching posterior edge of abdominal sternite VII. *Genitalia*. *Genital capsule*. Posteroventral edge laterally produced into short blunt lobes and between them a medium-sized plate (Fig. 4). *Parameres*. Figures 8, 9.

Measurements. *Male*. Length head: 2.40; width across eyes: 1.90; interocular space: 1.37; interocellar space: 0.90; preocular distance: 1.60; length antennal segments: I, 1.60; II, 2.35; III, 1.50; IV, 1.70. Pronotal length: 2.80; width across frontal angles: 2.10; width across humeral angles: 4.75. Scutellar length: 2.05; width: 2.35. Total body length: 14.05.

Female. *Color*. Similar to male. Hemelytral membrane with or without black spots; abdominal and connexival segments VIII and IX black; genital segments bright dark red; paratergite VIII orange yellow or bright dark red. *Structures*. Rostrum reaching anterior third of abdominal sternite VII; gonocoxae I in caudal view dorso-ventrally opened (Figs. 16, 17). *Measurements*. Length head: 2.65; width across eyes: 2.05; interocular space: 1.30; interocellar space: 0.75; preocular distance: 1.75; length antennal segments: I, 1.70; II, 2.60; III, 1.60; IV, 2.10. Pronotal length: 2.75; width across frontal angles: 1.85; width across humeral angles: 5.15. Scutellar length: 2.35; width: 2.55. Total body length: 15.50.

Holotype male. PAPUA NEW GUINEA: SE: MILNE BAY PROV: Dumai Creek Camp, 25.III.85. F. J. Radovsky. Deposited in BPBM.

Paratypes. NEW GUINEA: Lower Mist Camp (1,350–1,800 mts.), 13–31.I.39 and I.II.39. L. J. Toxopeus (Neth. Ind. American New Guinea Exp.). Three males, five females. Deposited in RNHL and IBUNAM. NEW GUINEA: Telefomin, III–VI.71. A. B. Mirza. Three males, three females. Deposited in BPBM and IBUNAM. NEW GUINEA: NW: WISSELMEREN: Enarotadi (1,800–1,900 mts.), 26.VII.62. J. Sedlacek. One male. Deposited in IBUNAM. NEW GUINEA: NE: EAST HIGHLANDS: 20 km SW, Kainantu (1,800 mts.), 16.I.66. J. Sedlacek. One male. Deposited in IBUNAM. NEW GUINEA: NE: EAST HIGHLANDS: 10 km, NE of Lufa (1,800–2,100 mts.), 21.I.66. J. and M. Sedlacek. One male, three females. Deposited in BPBM and IBUNAM. NEW GUINEA: Mt. Kundip (nr. Hagen) (7,200'), 10.IX.63. T. Schoener. Three females. Deposited in MCZH and IBUNAM. NEW GUINEA: OKAPA: Purona (1,800 mts.), 17.I.66. J. and M. Sedlacek. One female. Deposited in BPBM. NEW GUINEA: SE: Woitape (1,550–1,750 mts.), 2–3.XI.65. J. and M. Sedlacek. One female. Deposited in BPBM. NEW GUINEA: NE: WAU: Bulldog Rd. (2,100–2,400 mts.), 19.V.67. G. A. Samuelson. One female. Deposited in BPBM. NEW GUINEA: NE: WAU: Bulldog Rd., 40 km S of Wau, 22–31.V.69. J. and M. Sedlacek. One female. Deposited in BPBM.

Etymology: This species is named for its occurrence in Papua New Guinea.

***Lothygia cordigera*, new species**

Figs. 7, 10, 11, 18, 19, 25

Description. *Dorsal coloration*. Head dark red; space between eye-ocelli yellow; antennal segments I–III dark red and IV paler; pronotum and scutellum dark red; clavus and corium dark orange; hemelytral membrane dark brown with the following

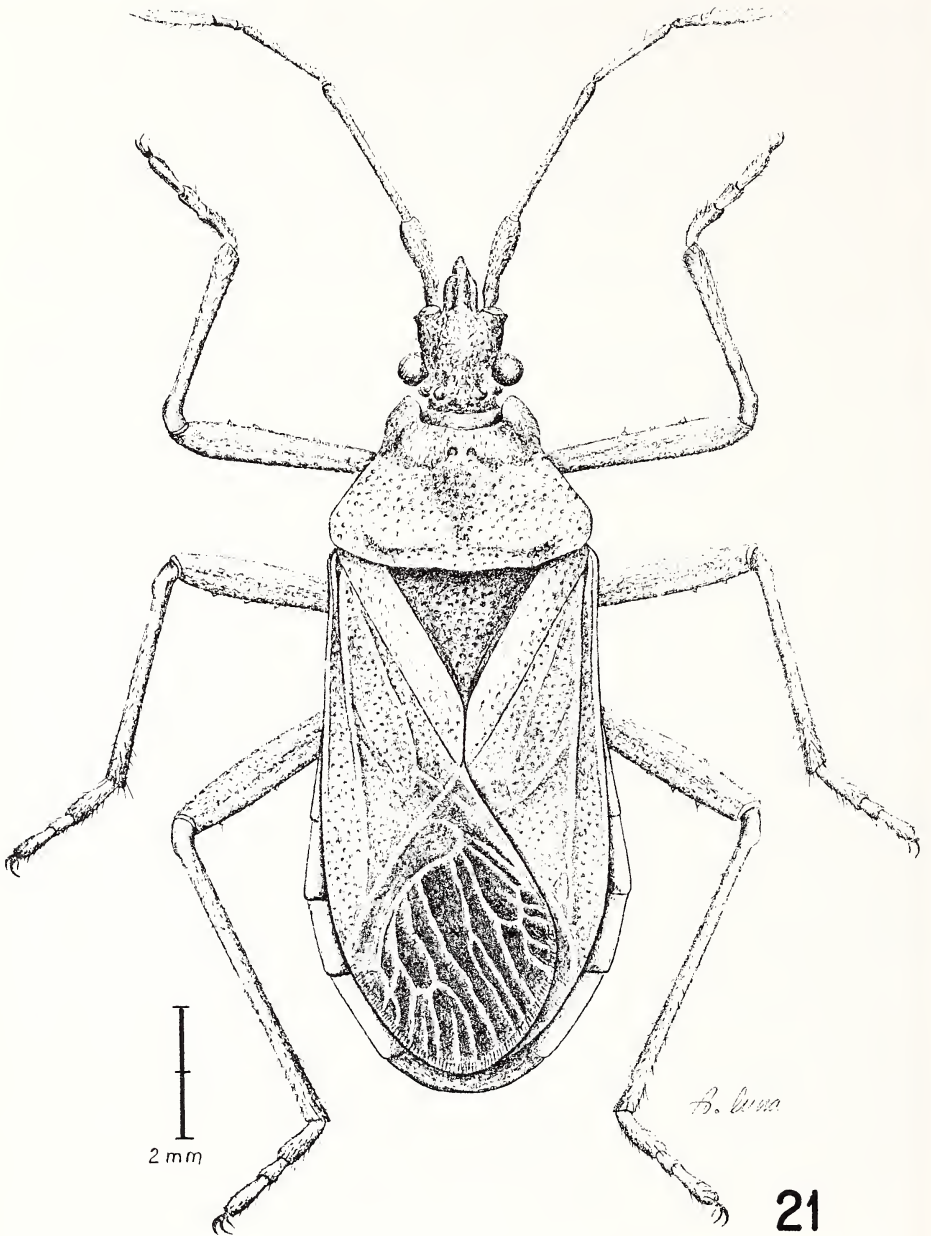


Fig. 21. *Lothygia papuana*, new species.

areas yellow; basal angle, apical margin and external face (in some specimens totally dark brown); connexival segments and abdominal segments orange yellow. *Ventral coloration*. Bright dark red with following areas bright orange yellow: anterior lobe of metathoracic scent gland and pleural margin of abdominal sternites III to VII; rostral segments I–II dark red and III–IV paler; legs bright dark red to bright orange red with a complete or incomplete ochre ring located on the basal third of tibiae. *Structures*. Antenniferous tubercles unarmed or with small lateral lobe; tylus apically with a spiny projection, very small and difficult to see; rostrum reaching posterior edge of abdominal sternite VII. *Genitalia*. *Genital capsule*. Posteroventral edge heart-shape (Fig. 7). *Parameres*. Figures 10, 11.

Measurements. *Male*. Length head: 2.12; width across eyes: 1.92; interocular space: 1.10; interocellar space: 0.55; preocular distance: 1.50; length antennal segments: I, 1.40; II, 2.20; III, 1.35; IV, 1.70. Pronotal length: 2.30; width across frontal angles: 1.85; width across humeral angles: 3.95. Scutellar length: 1.65; width: 1.80. Total body length: 12.10.

Female. *Color*. Similar to male. Hemelytral membrane dark to pale brown; connexival segments entirely orange yellow or bicolored with anterior half orange yellow and posterior half black; abdominal segments orange yellow or only with posterior margin of VII and a great portion of VIII and IX dark brown; genital plates bright dark red; paratergite VIII orange yellow or bright dark red. *Structures*. Rostrum reaching anterior third of abdominal sternite VII; gonocoxae I in caudal view dorso-ventrally closed (Figs. 18, 19).

Measurements. Length head: 2.17; width across eyes: 1.95; interocular space: 1.15; interocellar space: 0.55; preocular distance: 1.48; length antennal segments: I, 1.45; II, 2.10; III, 1.40; IV, 1.70. Pronotal length: 2.60; width across frontal angles: 1.85; width across humeral angles: 4.50. Scutellar length: 1.90; width: 2.25. Total body length: 13.32.

Holotype male. NEW GUINEA: Telefomin, III–IV. 71. A. B. Mirza. Deposited in BPBM.

Paratypes. NEW GUINEA: SE: Woitape (1,550–1,750 mts.), 2–3.XI.65. J. and M. Sedlacek. One male, one female. Deposited in BPBM and IBUNAM. NEW GUINEA: NW: WISSELMEREN: Enarotadi (1,850–1,950 mts.), 19.VII.62. J. Sedlacek. One female. Deposited in BPBM. NEW GUINEA: NE: OKAPA: Purosa (1,700–2,000 mts.), 18.I.66. J. Sedlacek. One male. Deposited in BPBM. NEW GUINEA: NE: TELEFOMIN: Sepik District (1,500 mts.), 18.I.70. A. B. Mirza. One female. Deposited in BPBM. NEW GUINEA: Lower Mist Camp (1,350–1,550 mts.), 31.I.39, 1.II.39, 18.II.39. L. J. Toxopeus (Neth. Ind. American New Guinea Exp.). One male, two females. Deposited in RNHL and IBUNAM.

Discussion. This species resembles *L. papuana* in appearance, especially in the tylus with its spiny projection. *L. cordigera* is readily distinguishable by the orange yellow abdominal segments, the heart-shape of the posteroventral edge of the genital capsule and the gonocoxae I dorso-ventrally closed (Fig. 19). In *L. papuana* the abdominal segments are black, the posteroventral edge of the genital capsule is laterally produced into short blunt lobes (Figs. 4, 7) and the gonocoxae I in caudal view dorso-ventrally opened (Fig. 17).

Etymology: Named for its heart-shaped posteroventral edge of the genital capsule.



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***Lothygia enarotadi*, new species**

Figs. 3, 5, 12, 13, 23

Description. Dorsal coloration. Head black; space between eye-ocelli yellow; antennal segments bright dark red; pronotum pale orange red; scutellum black with apex orange hazel and disc with dark red reflections; clavus and corium pale orange; hemelytral membrane dark brown with basal angle and apical margin yellow; connexival segments orange yellow; abdominal segments I–VI black and VII black with posterior third orange. *Ventral coloration.* Bright dark red with head bright black and following areas bright yellow: anterior lobe of metathoracic scent gland and pleural margins of abdominal sternites III to VII; rostral segments I–II dark red and III–IV paler; legs bright dark red to bright orange red with a complete or incomplete ochre ring located on the basal third of tibiae. *Structures.* Antenniferous tubercles with small lateral lobe; tylus apically truncate and globose; rostrum extending beyond posterior edge of abdominal sternite VII (Fig. 3). *Genitalia. Genital capsule.* Postero-ventral edge laterally produced into short blunt lobes and between them a large plate (0.70 mm) (Fig. 5). *Parameres.* Figures 12, 13.

Measurements. Male. Length head: 2.35; width across eyes: 1.80; interocular space: 1.10; interocellar space: 0.57; preocular distance: 1.52; length antennal segments: I, 1.55; II, 2.30; III, 1.40; IV, 1.85. Pronotal length: 2.30; width across frontal angles: 2.15; width across humeral angles: 4.15. Scutellar length: 1.95; width: 2.10. Total body length: 12.95.

Female. Color. Similar to male. Scutellum black with apex yellow; abdominal segment VIII black and IX black with orange reflections; genital plates bright dark red; paratergite VIII with or without external edge yellow; connexival segments III to IX yellow with posterior margin black. *Structures.* Rostrum reaching anterior third of abdominal sternite VII; gonocoxae I in caudal view dorso-ventrally opened.

Measurements. Length head: 2.55; width across eyes: 2.05; interocular space: 1.25; interocellar space: 0.73; preocular distance: 1.75; length antennal segments: I, 1.67; II, 2.50; III, 1.55; IV, 1.90. Pronotal length: 2.75; width across frontal angles: 1.90; width across humeral angles: 5.25. Scutellar length: 2.40; width: 2.75. Total body length: 15.00.

Holotype male. NEW GUINEA: NW: WISSELMEREN: Enarotadi (1,800–1,900 mts.), 27.VII.62. J. Sedlacek. Deposited in BPBM.

Paratypes. NEW GUINEA: NW: WISSELMEREN: Enarotadi (1,800–1,900 mts.), 27.VII.62. J. Sedlacek. One female. Deposited in BPBM. NEW GUINEA: Telefomin, III.VI.71. A. B. Mirza. One male. Deposited in BPBM. NEW GUINEA: Sigi Camp (1,500 mts.), 22.II.39. L. J. Toxopeus (Neth. Ind. American New Guinea Exp.). One female. Deposited in RNHL. NEW GUINEA: Mist Camp (1,800 mts.), 10–12.I. 39. L. J. Toxopeus. Two males, one female. Deposited in RNHL and IBUNAM.

Discussion. Very close to *L. papuana*, with abdominal segments I to VI black and gonocoxae I in caudal view dorso-ventrally opened (Fig. 17). In *L. enarotadi*, the

tylus is apically globose (Fig. 3), the male rostrum extending beyond posterior edge of abdominal sternite VII and the plate of the posteroventral edge of the genital capsule is longer over 0.70 mm. In *L. papuana* the tylus apically with a small spiny projection (Fig. 1); the male rostrum reaching posterior edge of abdominal sternite VII and the plate is shorter than 0.60 mm.

Etymology: Named for the type locality; a noun in apposition.

***Lothygia sandaracine*, new species**

Figs. 2, 6, 14, 15, 22

Description. Dorsal coloration. Head and scutellum black; antennal segments I to IV orange hazel; pronotum dark red with anterior third black; clavus and corium dark orange; hemelytral membrane dark brown; connexival segments orange yellow; abdominal segments I to VI bright orange yellow and VII black with anterior half orange yellow. *Ventral coloration.* Bright dark red, with head bright black and following areas bright yellow: anterior lobe of metathoracic scent gland and pleural margins of abdominal sternites III to VII; rostral segments orange hazel; legs bright dark red to bright orange red with a complete ochre ring located on the basal third of tibiae. *Structures.* Antenniferous tubercles unarmed; tylus apically with a small spiny projection; rostrum reaching posterior edge of abdominal sternite VII (Fig. 2). *Genitalia. Genital capsule.* Posteroventral edge sinuate and laterally poorly exposed (Fig. 6). *Parameres.* Figures 14, 15.

Measurements. Male. Length head: 2.20; width across eyes: 1.85; interocular space: 1.12; interocellar space: 0.55; preocular distance: 1.54; length antennal segments: I, 1.55; II, 2.30; III, 1.50; IV, 1.75. Pronotal length: 2.30; width across frontal angles: 1.75; width across humeral angles: 4.20. Scutellar length: 1.65; width: 1.95. Total body length: 12.88.

Female. Unknown.

Holotype male. NEW GUINEA: Sigi Camp (1,350 mts.), 28.II.39. L. J. Toxopeus (Neth. Ind. American New Guinea Exp.). Deposited in RNHL.

Discussion. Like *L. cordigera*, *L. sandaracine* has the abdominal segments I to VI bright orange yellow. Distinguished by the form of the posteroventral edge of the genital capsule which in *L. cordigera* is heart-shape (Fig. 7) and in *L. sandaracine* is sinuate and laterally poorly exposed (Fig. 6).

Etymology: From the Greek sandaracinos, orange colored.

KEY TO *LOTHYGINA* SPECIES

1. Abdominal segments I to VI black; gonocoxae I in caudal view dorso-ventrally opened (Fig. 17) 2
- 1'. Abdominal segments I to VI orange yellow; gonocoxae I in caudal view dorso-ventrally closed (Fig. 19) 3
2. Tylus apically with a short spiny projection (Fig. 1); male genital capsule with posteroventral edge with short median plate (0.58 mm). (Fig. 4) ... *L. papuana*, new species
- 2'. Tylus apically globose, truncate (Fig. 3); male genital capsule with posteroventral edge with large median plate (0.70 mm) (Fig. 5) *L. enarotadi*, new species
3. Male genital capsule with posteroventral edge heart-shape (Fig. 7); frontal angles well developed *L. cordigera*, new species

- 3'. Male genital capsule with posteroventral edge sinuate and laterally poorly exposed (Fig. 6); frontal angles poorly developed (Fig. 2) *L. sandaracine*, new species

ACKNOWLEDGMENTS

I am indebted to the following individuals and institutions for the loan of specimens and other assistance relevant to this study: Gordon M. Nishida (BPBM); D. Furth and S. Pratt (MCZH); Jan van Tol (RNHL); Ernesto Barrera (IBUNAM), Albino Luna (IBUNAM) and Cristina Mayorga (IBUNAM) for the preparation of the dorsal view illustrations.

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Received 1 June 1993; accepted 10 November 1993.